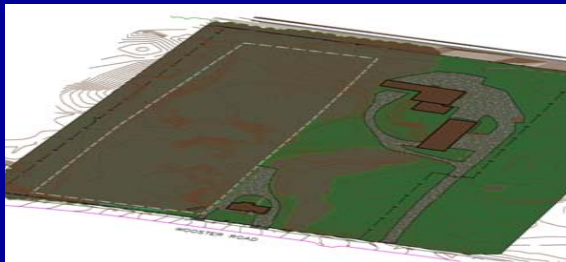


GATKE DUMP

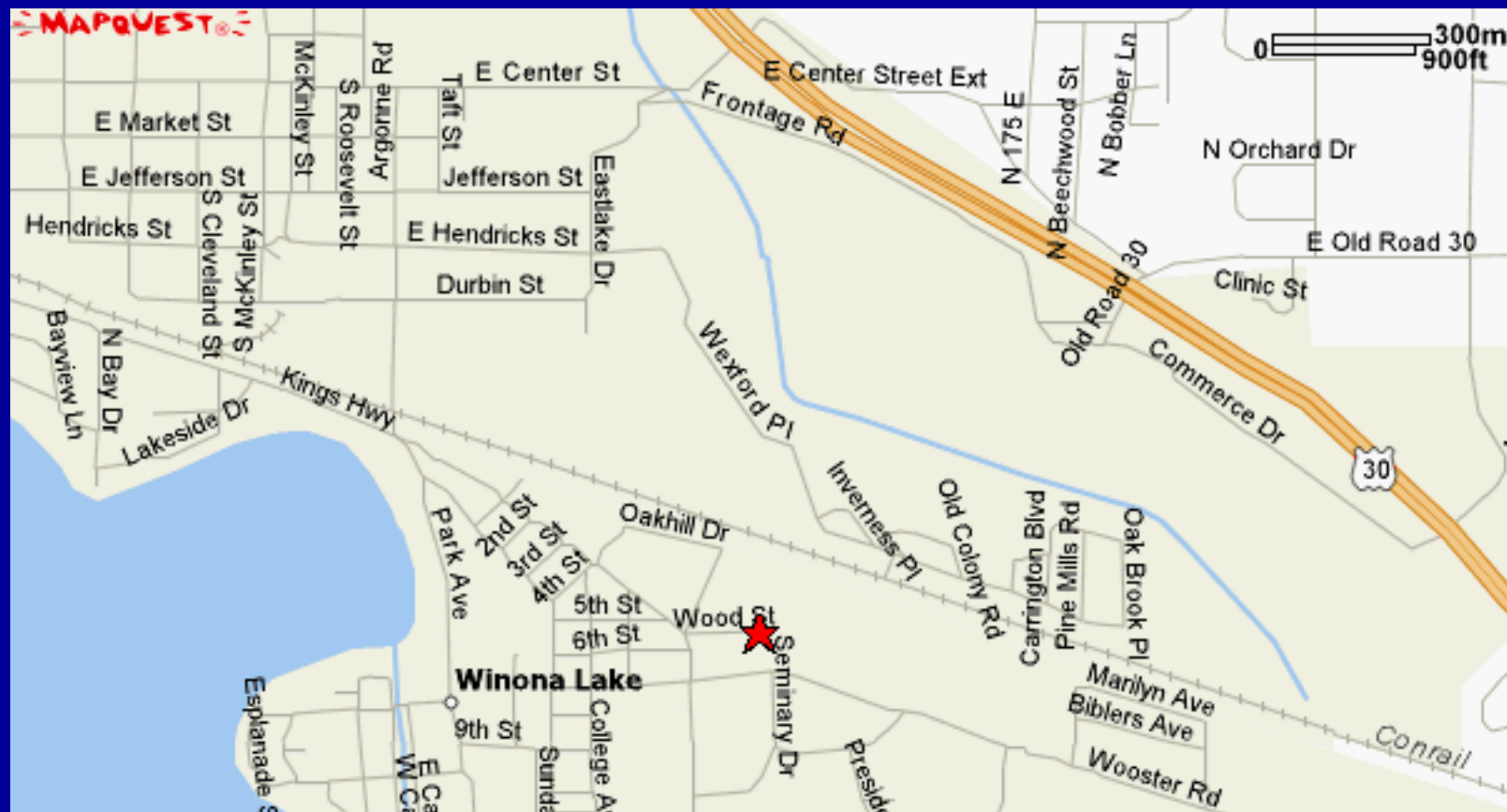
How Institutional and Engineering Controls
Transformed an Industrial Waste Site into the
Orthopaedic Capital Center



Presented by:
Brian Horvath

WEAVER
BOOS
CONSULTANTS

General Location



Aerial Photo – Pre Construction





History

- ➔ Prior to 1950: Sand and gravel pit
- ➔ 1950 – 1974: Gatke Corporation used site as dump for waste generated from asbestos-based brake lining manufacturing.
- ➔ 1974 – 1990's: Abandoned; illegal dumping
- ➔ 1993: Gatke Corporation files for bankruptcy.
- ➔ 1990's: Site put up for tax sale, but nobody comes forward to pay delinquent taxes.



Environmental Concerns

- ➔ Investigated by Indiana State Board of Health, County Health Dept, IDEM, and Winona Lake since 1975.
- ➔ Asbestos and metal waste buried 20-30 feet deep.
- ➔ Lead, asbestos, phenols, and other heavy metals detected in soil samples.
- ➔ Surface littered with dumped drum carcasses, roofing shingles, discarded appliances, etc...
- ➔ Neighbors concerned about potential environmental impacts and eyesore of the abandoned property.

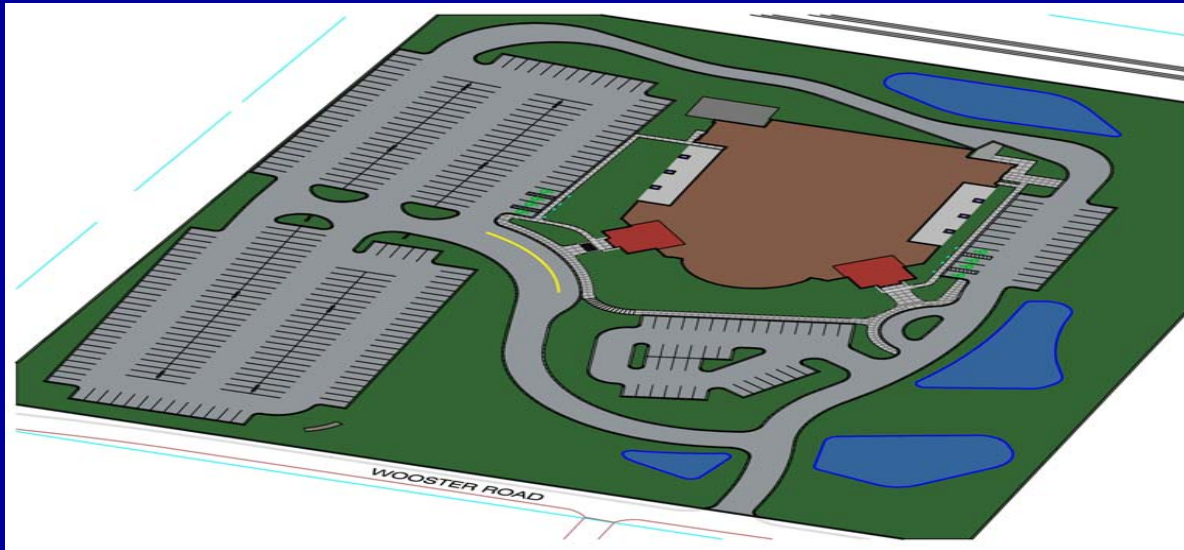


Redevelopment Plans

- ➔ Grace College and Seminary admissions are increasing by 10% per year and the institution is starting to outgrow some of its facilities.
- ➔ Kosciusko County owns a contaminated dump site due to tax default.
- ➔ Local orthopaedic companies could use meeting facilities to host shareholder meetings, seminars, conferences, or other events.
- ➔ Parties begin discussions in 2000.

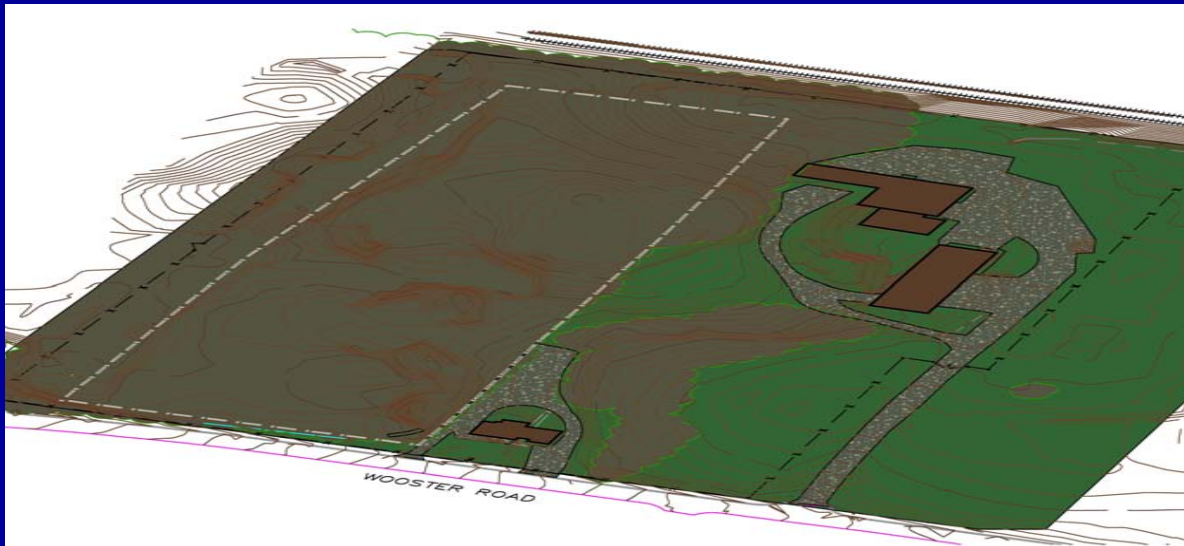
Redevelopment Plans

- ➔ Orthopaedic Capital Center to be built by Grace College with substantial financial support from the area's 3 largest orthopaedic firms.



Redevelopment Plans

➡ But first, what to do with the dump?

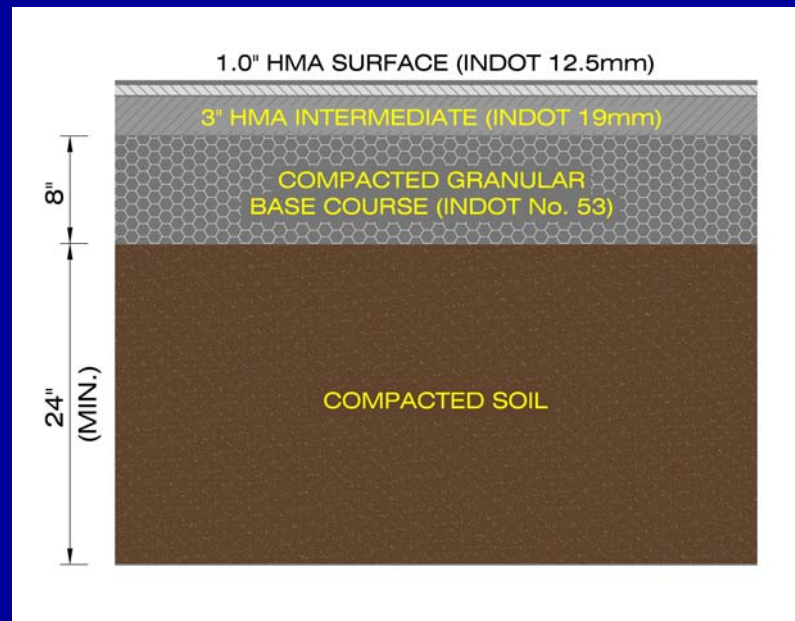




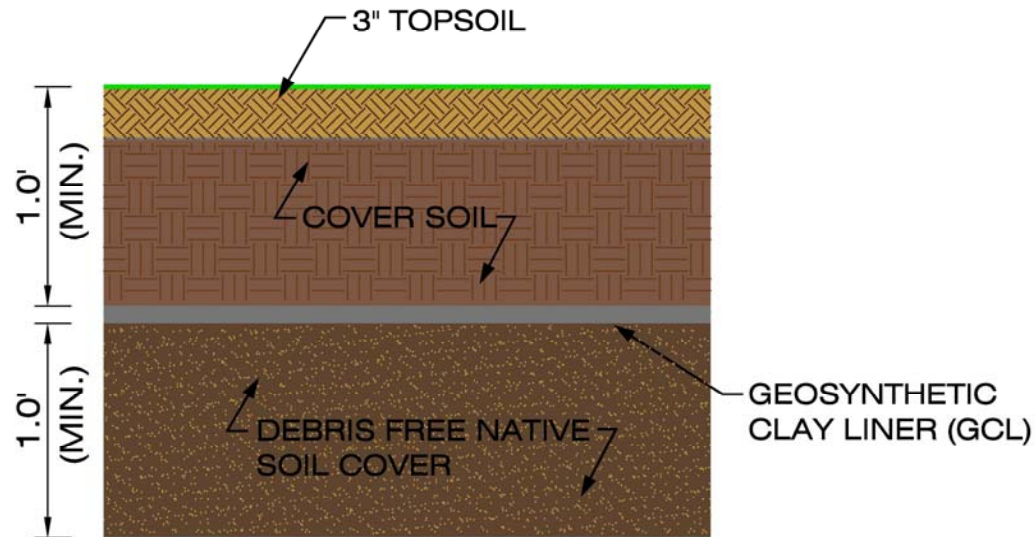
Remedial Action Objective

- ➔ Prevent human contact with lead-contaminated soils and asbestos-containing waste.
- ➔ Redevelop the land as part of the 2,700-seat Orthopaedic Capital Center project.

Engineered Barrier- Asphalt Cap



Engineered Barrier- Soil/ GCL Cap



Clearing and Grubbing



Waste Grading



Geosynthetic Clay Liner



Pavement



Aerial View of Construction





Gatke Dump - Institutional and Engineering Controls
Indiana Brownfields Conference 2006

Completed Parking Lot





Institutional Controls

- ➡ Environmental Restrictive Covenant
- ➡ No groundwater supply wells installed
- ➡ Limits on future construction and excavation
 - Even seemingly routine projects like signs, trees, or light poles can damage engineered barrier.
- ➡ Maintenance Manual for engineered barriers



Maintenance Manual

⇒ 15 pages documenting routine inspections, maintenance, and repair procedures for engineered barriers.

- Asphalt
- Stormwater Management System
- Side Slopes
- Vegetation



Asphalt Maintenance

- ⇒ Quarterly inspections for cracks wider than 1/8", excessive surface cracking, and differential settlement
- ⇒ Note locations of any longitudinal cracks, alligator cracking, rutting, detaching asphalt, etc.
- ⇒ Clean areas of excessive oil from parked cars



Asphalt Maintenance

- ⇒ Routine crack sealing
- ⇒ Seal coat
- ⇒ Chip and seal
- ⇒ Patching
- ⇒ Resurfacing
- ⇒ Removal and replacement



Stormwater System Maintenance

- ⇒ Semi-annual inspections of inlets and outlets for plugged pipes, excess sediment, standing water
- ⇒ Video inspections of pipe if warranted
- ⇒ Remove debris and sediment
- ⇒ Repair broken castings in accordance with construction specifications
- ⇒ Consult with engineer for extensive repair requirements



Side Slope Maintenance

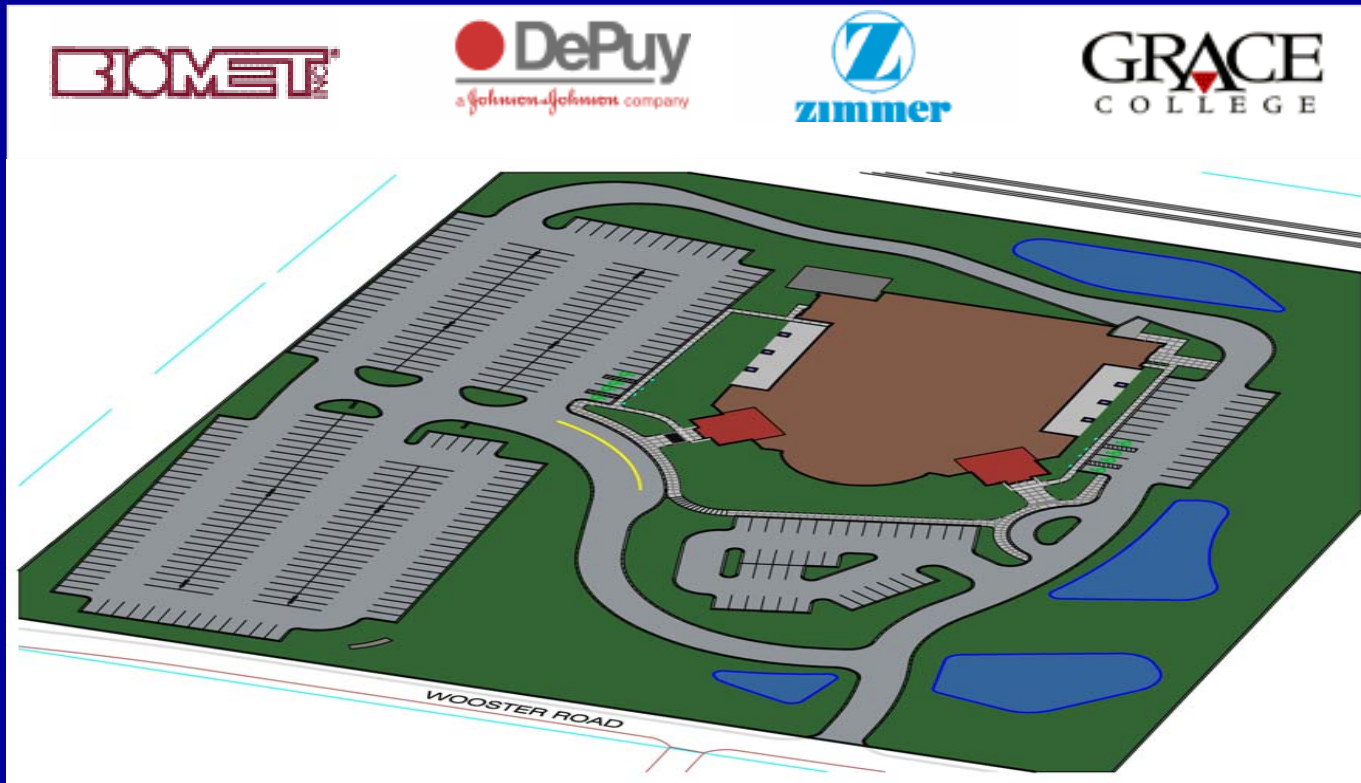
- ⇒ Quarterly inspections and after heavy rains for erosion and sliding
- ⇒ Fill and seed minor depressions and erosion gulleys
- ⇒ Consult with engineer for extensive repair requirements



Vegetation Maintenance

- ⇒ Routine inspections during mowing and landscaping activities
- ⇒ Look for sparse areas or areas of excessive growth that require mowing or trimming
- ⇒ Replacement plantings must be shallow rooted to promote establishment of vegetation and prevent damage to GCL/ compacted soil barrier

Orthopaedic Capital Center



Orthopaedic Capital Center

- Scheduled opening 5/07
- \$9.1 million, 60,000 sf event center
- 2,700-seat theatre and chapel
- 2,500-seat venue for concerts
- 2,100-seat arena for sporting events
- 15,000-square-foot convention center





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Orthopaedic Capital Center

